

## Efficient Space Borne MMIC Interface, Phase I

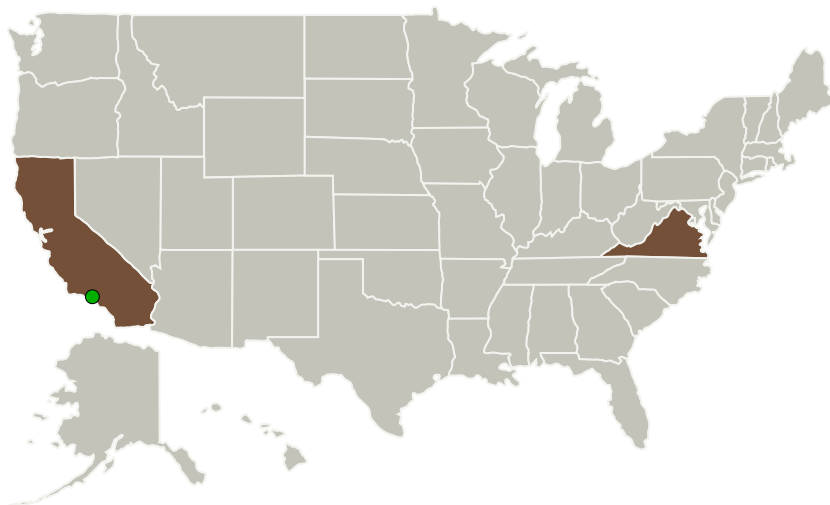
Completed Technology Project (2010 - 2010)




## Project Introduction

We are proposing to develop high power, high efficiency Ka-band and W-band amplifiers for future NASA missions. The significance of the innovation primarily lies in two areas: better interconnections to available MMIC and extremely low loss power combiner. The approach uses Nuvotronics unique metal micromachining PolyStrata™ process, used to create suspended recta-coax lines, MMIC sockets, and millimeter-wave (MMW) interconnection circuits with low loss, small size/high density, and durability. During this Phase I project, we will design two circuits at Ka and W-band using commercial off the shelf power amplifier MMICs to achieve the goal of 10 Watts (Ka) and 2 watts (W) output power with 20% efficiency.

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Nuvotronics, Inc	Lead Organization	Industry	Radford, Virginia
 Jet Propulsion Laboratory(JPL)	Supporting Organization	NASA Center	Pasadena, California



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## Primary U.S. Work Locations

California

Virginia

## Project Transitions

 **January 2010:** Project Start

 **July 2010:** Closed out

**Closeout Summary:** Efficient Space Borne MMIC Interface, Phase I Project Image

### Closeout Documentation:

- Final Summary Chart Image(<https://techport.nasa.gov/file/138963>)

## Organizational Responsibility

### Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

### Lead Organization:

Nuvotronics, Inc

### Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

## Project Management

### Program Director:

Jason L Kessler

### Program Manager:

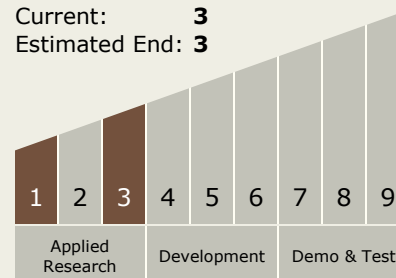
Carlos Torrez

### Principal Investigator:

Jean Marc Rollin

## Technology Maturity (TRL)

Start: **1**  
Current: **3**  
Estimated End: **3**



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### Technology Areas

#### Primary:

- TX05 Communications, Navigation, and Orbital Debris Tracking and Characterization Systems
  - └ TX05.2 Radio Frequency
    - └ TX05.2.7 Innovative RF Technologies

### Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System